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Klaus Scheffel

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EXAMINER

PERILLA, JASON M

ART UNIT

PAPER NUMBER

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DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/804,168

Applicant(s)

SCHEFFEL, KLAUS

Examiner

Jason M. Perilla

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-15, 17-26 and 28-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-15, 17-26 and 28-36 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-5, 7-15, 17-26, and 28-36 are pending in the instant application.

#### *Claim Objections*

2. Claims 7 and 17 are objected to because of the following informalities:

Regarding claim 7, the claim depends upon a cancelled claim.

Regarding claim 17, the claim depends upon a cancelled claim.

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

3. Claims 1-5, 7-15, 17-20, 26, 28-31, 33, 34, and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

Regarding claim 1, the claim is objected to because it confuses operative steps in the method of the invention. The following proposed version of the claim is presented by the Examiner to overcome the rejection.

1. A method for synchronizing a receiver to a transmitter, comprising the steps of:
  - receiving, by the receiver, a phase difference information indicating a phase difference between an internal clock and an external clock;
  - generating, by the receiver, a clock signal dependent on the ~~transmitted~~ received phase difference information;
  - generating, by the receiver, an internal clock or recovering an internal clock of the transmitter from information received from the transmitter;
  - frequency-dividing, by the receiver, the internal clock;
  - ~~adjusting, by the receiver, the phase of the frequency-divided clock based on the received phase difference information;~~
  - storing, by the receiver, at least two successive values of the phase difference information received from the transmitter; and

detecting, by the receiver, a difference between the successive values of phase difference information;

adjusting, by the receiver, the phase of the frequency-divided clock based on the detected difference.

Regarding claims 2-5, and 7-10, the claims are rejected as being based upon a rejected parent claim.

Regarding claim 11, the claim is rejected for the same reasons as applied to claim 1 above.

Regarding claims 12-15, and 17-20, the claims are rejected as being based upon a rejected parent claim.

Regarding claim 26, the claim is rejected for the same reasons as applied to claim 1 above.

Regarding claims 28-31, the claims are rejected as being based upon a rejected parent claim.

Regarding claims 33, 34, and 36, the claims are rejected for the same reasons as applied to claim 1 above.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-24, 32 and 35 are rejected under 35 U.S.C. § 102(b) as being anticipated by Benayoun et al (U.S. Pat. No. 5790608; "Benayoun" – previously cited).

Regarding claim 21, Benayoun discloses a transmitter used in a system for synchronizing a receiver to a transmitter (abstract), wherein the receiver comprises a clock generator means (fig. 3B, ref. 231) for generating a clock signal (fig. 3B, "VIDEO CLOCK") dependent on the transmitted phase difference information (fig. 3B, "D0-D15"), the transmitter (fig. 3A) comprising: a plurality of dividers (within "PHASE COMPARATOR" of fig. 3A, ref. 281; fig. 6, refs. 300 and 310) wherein an external synchronization input (fig. 6, "CLK2") is applied to one of the plurality of dividers (fig. 6, ref. 310) which is configured to generate an external timebase and a symbol clock from an internal clock (fig. 6, "CLK1") is applied to another one of the plurality of dividers (fig. 6, ref. 300) which is configured to generate an internal timebase of the same frequency as the external timebase; a phase difference generating unit (fig. 3A, ref. 281; fig. 6) configured to generate phase difference information (fig. 3A, "D0-D7") indicating a phase difference between an internal clock (fig. 3A, "CLK1") and an external clock (fig. 3A, "CLK2"); wherein the internal timebase and the external timebase are applied to start (fig. 6, "UP\_START") and stop (fig. 6, "UP\_STOP") inputs of the phase difference generating unit; a symbol generator (fig. 3A, ref. 260) to which the phase difference (fig. 3A, "D0-D7") is applied, the symbol generator is also configured to receive a symbol clock generated by an internal clock generator (fig. 3A, from "NETWORK ADAPTER" to "DIVIDER" 280; the internal clock is "CLK1" output from divider 280); and a transmitting unit (fig. 3A, refs. 260, 190, and 270) configured to transmit the phase difference information to a receiver.

Regarding claim 22, Benayoun discloses the limitations of claim 21 as applied above. Further, Benayoun discloses a frequency divider means (fig. 6, refs. 300 and 310) for frequency dividing the internal clock and the external clock to the same frequency; and a converting means (fig. 6, refs. 340 and 350) for converting the phase difference between the frequency-divided clocks to a numerical value to be transmitted to the receiver.

Regarding claim 23, Benayoun discloses the limitations of claim 22 as applied above. Further, Benayoun discloses that the converting means (fig. 6) comprises a counter (fig. 6, refs. 340 and 350) which generate the numerical value to be transmitted to the receiver, the counter having start and stop inputs to which pulses of the frequency-divided clocks are applied.

Regarding claim 24, Benayoun discloses the limitations of claim 21 as applied above. Further, Benayoun discloses the step of transmitting the phase difference information to the receiver in the form of "SDLC" or multicast packets (col. 4, line 54).

Regarding claim 32, Benayoun discloses the limitations of the claim as applied to claim 21 above.

Regarding claim 35, Benayoun discloses the limitations of the claim as applied to claim 21 above.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 25 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Benayoun.

Regarding claim 25, Benayoun discloses the limitations of claim 21 as applied above. Benayoun does not explicitly disclose the frequencies of the internal or external clocks (i.e. fig. 3A, "CLK1" and "CLK2") and does not disclose that the internal clock has a frequency of 80 MHz or 89.6 MHz and the external clock has a frequency of 2.048 MHz or 1.544 MHz. However, the specification of the instant invention does not provide any particular reason for the use of such frequencies and does not provide any indication of non-obviousness associated with such frequencies. Furthermore, one skilled in the art would find that any frequencies could be utilized because the invention is based upon determining a difference in phase which could be applied between any two frequencies. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to use frequencies of 80 MHz, 89.6 MHz, 2.048 MHz, or 1.544 MHz as the internal and external clock frequencies because, as understood by one having ordinary skill in the art, the frequency analyzed is arbitrary and could be tailored depending upon the design considerations.

8. Claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Benayoun in view of Knapp et al (U.S. Pat. No. 7106224; "Knapp").

Regarding claim 28, Benayoun discloses the limitations of claim 26 as applied above. Benayoun does not explicitly disclose the step of multiplying, by the receiver, the frequency of the adjusted frequency-divided clock for generating an external clock.

Rather, Benayoun discloses applying the adjusted frequency-divided clock (fig. 3B, output of ref. 230) to a VCO (fig. 3B, ref. 231) for phase adjustment according to the phase offset received (fig. 3B, ref. "D0-D15"). It is implied that the "VIDEO CLOCK" of Benayoun is of a higher frequency than the received "NETWORK CLOCK" but it is not explicitly disclosed. However, Knapp teaches that network clock signals are typically multiplied to achieve desired local frequencies (fig. 8, ref. 74; col. 13, lines 55-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made that the "NETWORK CLOCK" of Benayoun could be multiplied, at least in part, to determine the desired local "VIDEO CLOCK" as taught by Knapp because the determination of a local clock by multiplication is well known in the art as being an effective and simple method to achieve the generation of a particular frequency.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR § 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jason M. Perilla  
November 7, 2007

jmp

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER